Silviculture Marking Guide
Mel Stew Units 5 and 6
Melvin Butte EA
Old growth ponderosa pine/ Van Pelt Marking
12/16/2015

/s/ William Brendecke – certified silviculturist

Management Allocations:

LRMP: Front Country Seen/Unseen MA 18

NWFP: Matrix

EA Treatment Name: Thinning (Uneven-aged)

Secondary treatments: Select down wood removal, pile burning, underburning and pruning

Existing Condition:

Table 1. Basal area per acre and trees per acre within the old growth units.

			Non-saw		Saw			Non-saw		Saw	
Unit	Acres	Avg. DBH (BA adj)	BA/acre 0-4.9”	BA/acre 5-8.9”	BA/acre 9-20.9”	BA/acre 21”+	BA/total	TPA 0-4.9”	TPA 5-8.9”	TPA 9-20.9”	TPA 21”+
5	53	11.9	8	24	78	150	260	138	94	64	43
6	37	12.6	6	21	95	139	262	109	79	72	42

Ground reconnaissance indicted that the pre-dominate species is ponderosa pine (in all size classes).

Past management- selective overstory removal of ponderosa pine, fire suppression/exclusion

Marking Goals

- Retain character of old growth stands which include the variable arrangement of clumps. Utilize and accentuate gaps where possible.
- Move units to old forest single stratum (i.e. dominated by a single overstory of old growth ponderosa pine).
- Retain all trees >150 years old (Retain all ponderosa pine >5 Van Pelt tally score).
- Favor ponderosa pine over other species.
- Retain any 5 needle pines or Doug-fir (if discovered).
- Retain all standing snags (any size)

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Structure:

The structure of the stands is in the Old Forest Multi-stratum phase (Oliver and Larson 1996). There is an abundant small tree component (Table 1) consisting of ponderosa pine, white fir and lodgepole pine. Understory shrub component is low.

Fuels:

In general the fuels are represented by recent bark beetle induced mortality from years of overstocking. This fuel tends to be in jackpots dispersed across the area. Tons/acre varies with heavy jack pot areas representing 20+ tons/acre. In addition the duff layer is generally deep throughout from years of accumulation and missed fire cycles.

Dwarf Mistletoe:

In general dwarf mistletoe is highest in the north and east portions of the units where they meet other stand types. The mistletoe has been present for a long period indicated by old deformed branches in the old growth ponderosa pine.

Desired Future Condition-

Relatively open pine stands with a random distribution of stems. From the road edge there will be improved visuals. Large old growth ponderosa pine will dominate and have reduced competition from smaller size classes. Grasses and forbs diversity increased and utilization of white Stems arranged in a variable/ random pattern with small openings between clumps and individual trees.

Saw-log marking guidelines: ITM marking- with half band marking along the 16rd visual corridor for up to 100 ft distance into units.

Common to all areas:

Thinning will be generally from below except when creating/ accentuating openings or removing larger and younger white fir (when present). Retain any trees (all species) where they are growing into and among rocky outcroppings/ pitch areas. Species presence order is ponderosa pine, lodgepole, white fir and juniper.

- **Off Road Travel/ User Created Roads- avoidance marking (i.e. non-marking)**

In areas directly adjacent to the 16rd (that have direct flat path into unit), Lower Three Creek Snow Park vicinity, 300 rd and 850 rd- retain higher tree densities and retain them in a way that MAY prevent future off road travel/ user created travel/parking (Figure 1).

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- **Across all areas retain all old growth ponderosa trees (pine).**

Old growth here is defined as trees that are > 150 years old. Primary age determination will occur through using assessment calculation from Van Pelt 2008. Additional select coring will occur randomly and periodically during and after marking in order to better calibrate Van Pelt qualitative age determination. Especially focus this select coring on small ponderosa pine that are <17"dbh and appear to have some old growth characteristics (Figure 2).

- **Remove all "non-old growth" trees from within 1 drip line of any >21" old growth tree or clump.**

The exception to this would be if the old growth pine is clearly fading and will be dead in the short-term. In some cases you will not be able to achieve this due to small old growth that may be present

- **After the above steps are realized- remove low vigor trees (Figure 3), those with mistletoe and preferentially those that are not likely to endure for the long-term to a 100-120 basal area (average). The entire range includes down to 20 BA (developed or accentuated openings and up to unthinned areas (300BA+ due to age limitations).**

NOTE- age consideration is an overarching element in this prescription so it is likely and expected that in some areas the basal area range will be well above this average range.

D X D- Non-saw marking guidelines- defined here as 5" to <9"dbh.

- Remove all white/grand fir and lodgepole.
- Retain all Doug-fir and any five needle pine (if discovered).
- Utilize 25 foot spacing (70ft x70ft when equilateral distances) (includes using leave trees into this spacing) across all areas choosing the largest/ tree available.

D X P- Non-saw marking guidelines- defined here as 4.5ft tall up to 4.9"dbh.

- Remove all white/grand fir, lodgepole and western juniper.
- Retain all Doug-fir and any five needle pine (if discovered).
- Thin **ALL** 4.5ft tall up to 4.9"dbh ponderosa pine that indicate **ANY** infestation of dwarf mistletoe (defined as DMR 1-6)
- Thin remaining trees/ areas and thickets retaining the healthiest and largest ponderosa pine possible at ~36TPA (35ftx35ft when equilateral distances) **HOWEVER** allow spacing to vary among trees ranging from 2-50ft based on health, vigor, room to grow, presence of overstory mistletoe and favoring a clumpy/ random distribution.

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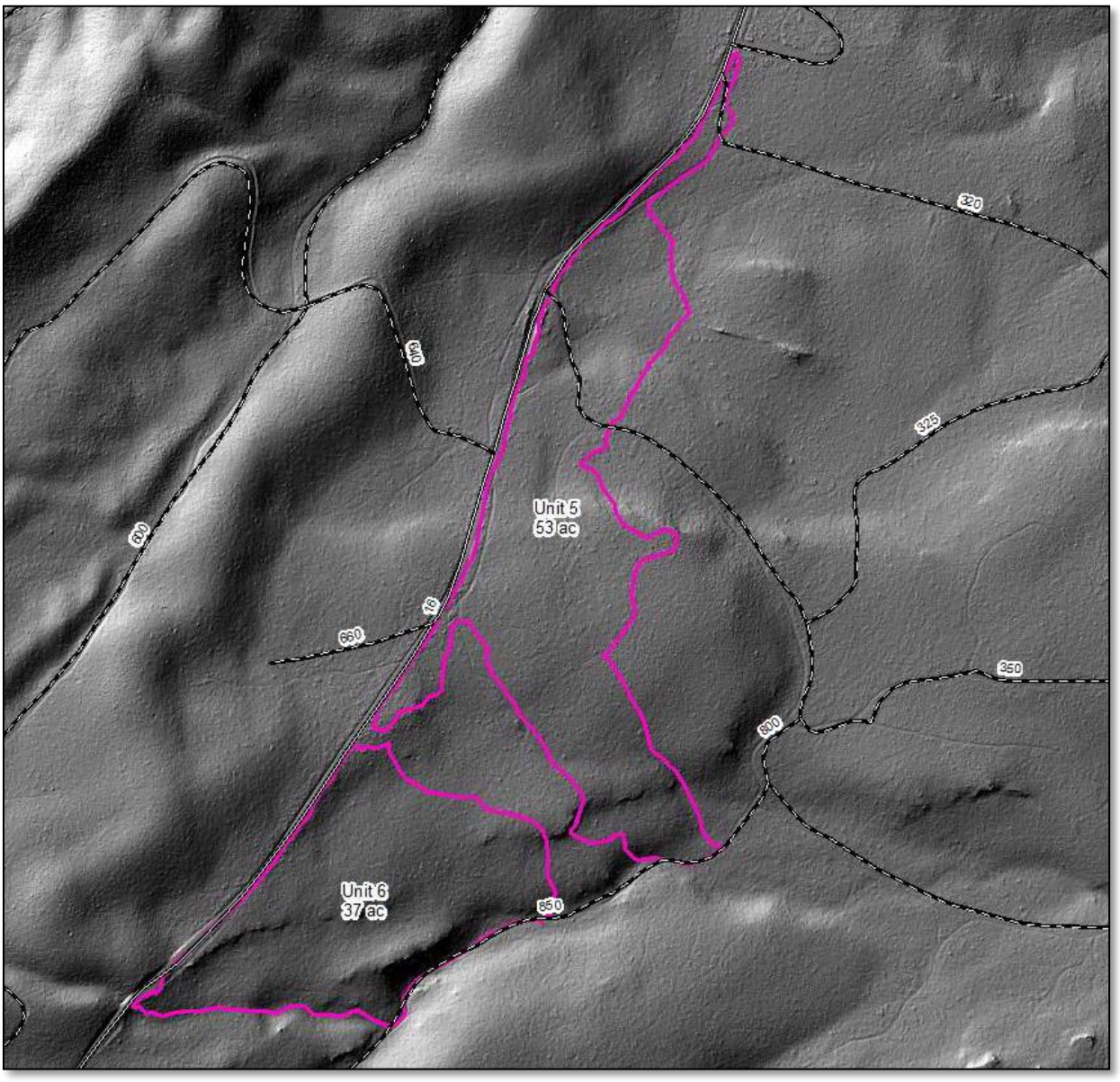

Figure 1. Boundaries of units under this prescription. Note the north end of Unit 5 is directly adjacent to Lower 3 Creeks snowpark.

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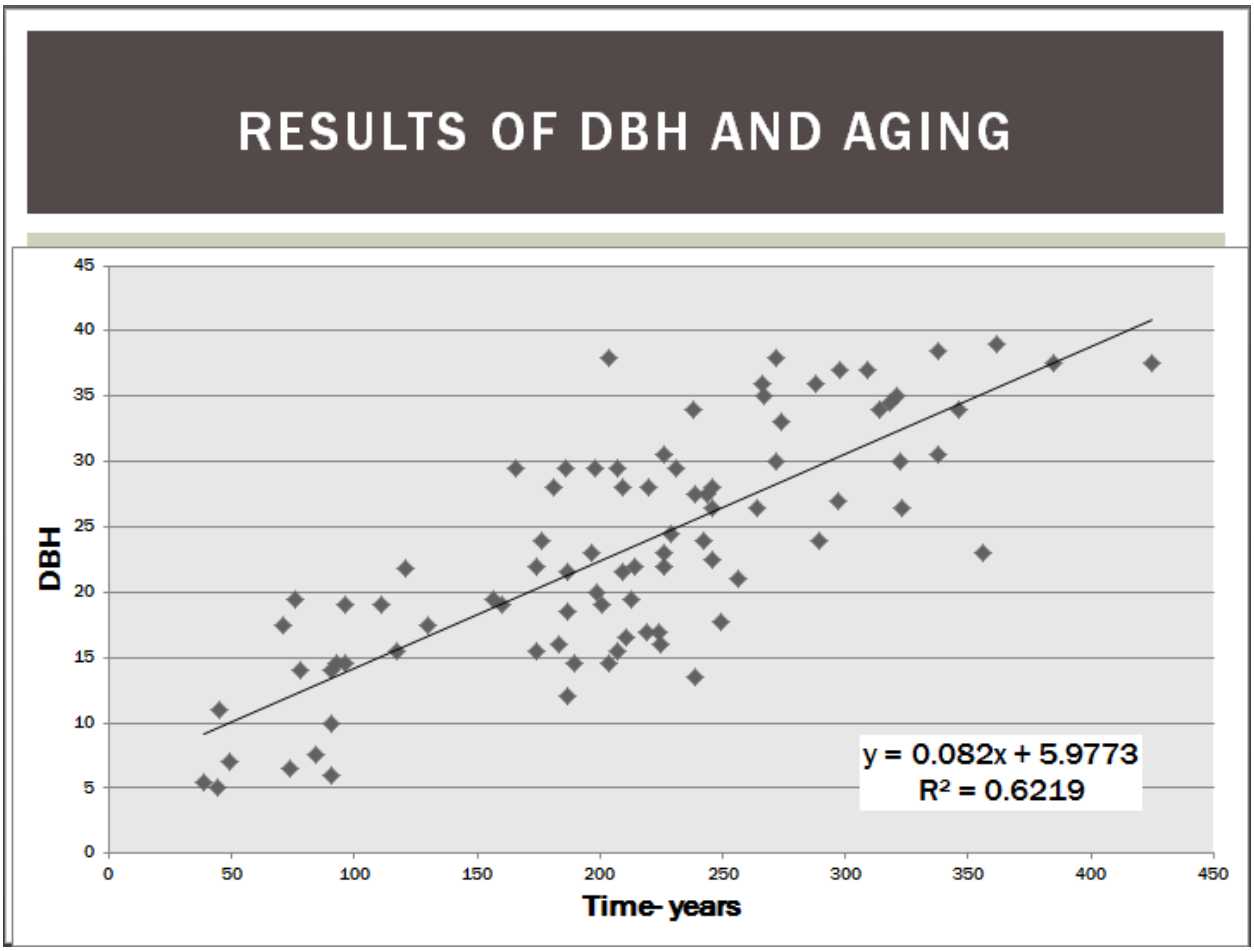

Figure 2. Scatterplot and regression equation from individual trees cored (and aged) from within these units. Regression line indicates with ~62% accuracy that a ~17"dbh ponderosa pine tree will be 150 years old.

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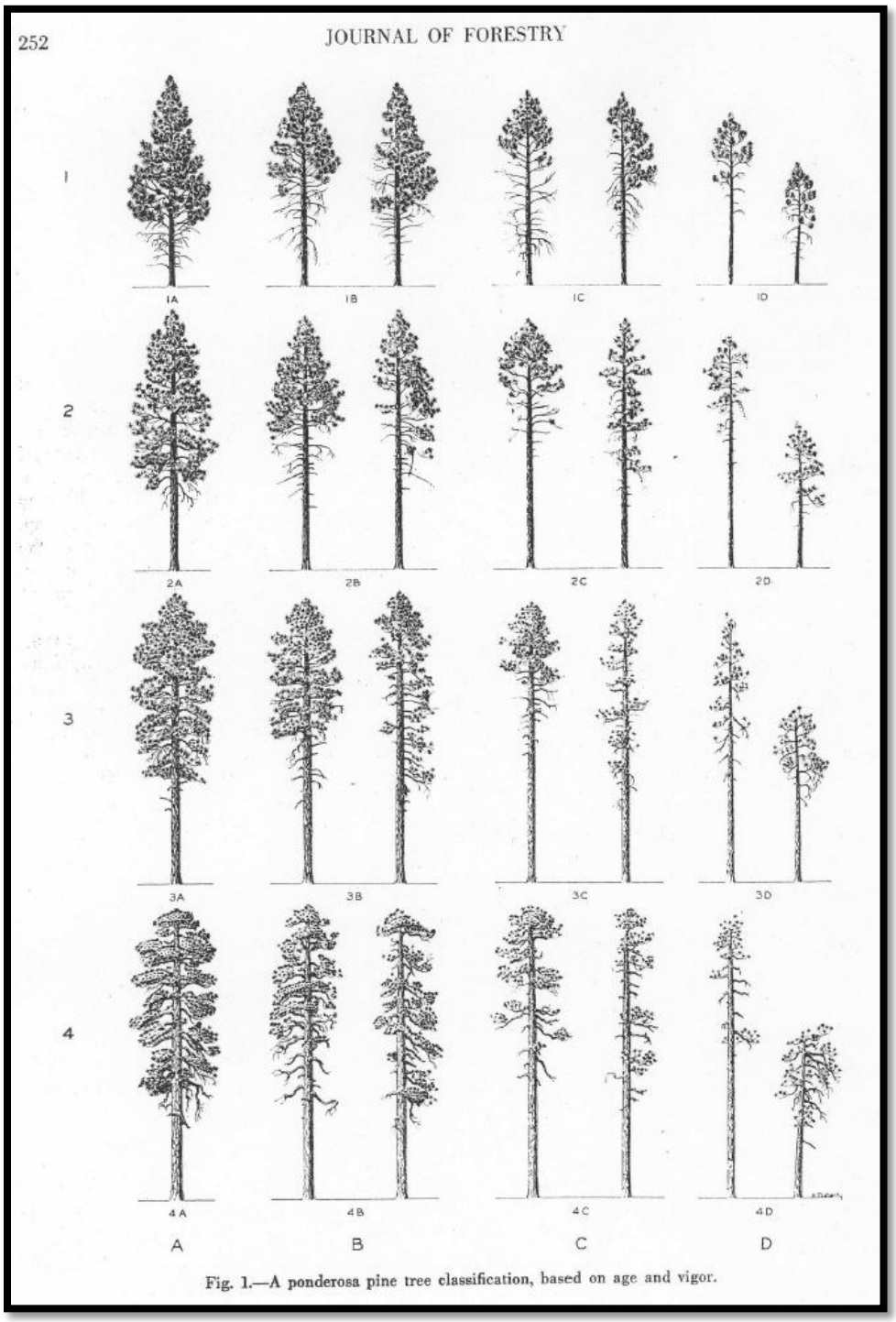

Fig. 1.—A ponderosa pine tree classification, based on age and vigor.

Figure 3. Vigor guide useful in determining low vigor trees